Claims

What is claimed is:

1. A method of detecting sperm in a test sample, said method comprising:

obtaining a test sample;

contacting said test sample with a composition comprising at least one antibody directed against a sperm-specific antigen, wherein said at least one antibody is labeled with a reporter molecule; and

detecting said at least one antibody with an assay which measures said reporter molecule, wherein detection of said reporter molecule indicates the presence of sperm in said test sample.

2. The method of claim 1, wherein at least two different antibodies are used.

3. The method of claim 2, wherein at least one of said two different antibodies is directed against a sperm surface antigen.

4. The method of claim 3, wherein said antibody is directed against a sperm head antigen.

5. The method of claim 2, wherein at least one of said antibodies is directed against a sperm-specific nuclear antigen.

6. The method of claim 1, wherein said reporter is measured using an assay selected from a group consisting of a colorimetric assay, a chemiluminescence assay, and a fluorescence assay.

7. The method of claim 2, wherein each of the at least two different antibodies is labeled with different reporter molecules.

8. The method of claim 2, wherein each of the at least two different antibodies is directed against different sperm-specific antigens.

9. The method of claim 1, wherein said sperm-specific antigen is selected from the group consisting of SEQ ID NO:1 (SP-10), SEQ ID NO:2 (CABYR), SEQ ID NO:3 (ESP), SEQ ID NO:4 (SAMP32), SEQ ID NO:5 (SPAN-X), SEQ ID NO:6 (AKAP), CBP86, SAMP-14, HUP1N, and HUP2B.

10. The method of claim 1, wherein said at least one antibody is selected from the group consisting of 3C6, 3A4, 3A5, A9, MHS-10, and 8G8G8G8.

11. The method of claim 1, wherein said test sample is a post-coital swab.

12. A composition for detecting sperm in a sample, said composition comprising at least one antibody directed against a sperm-specific antigen, wherein said antibody is labeled with a reporter molecule.

13. The composition of claim 12, said composition comprising at least two antibodies directed against a sperm-specific antigen, wherein each of the at least two antibodies is directed against different sperm-specific antigens.

14. The composition of claim 12, wherein said sperm-specific antigen is selected from the group consisting of SEQ ID NO:1 (SP-10), SEQ ID NO:2 (CABYR), SEQ ID NO:3 (ESP), SEQ ID NO:4 (SAMP32), SEQ ID NO:5 (SPAN-X), SEQ ID NO:6 (AKAP), CBP86, SAMP-14, HUP1N, and HUP2B.

15. The composition of claim 12, wherein said at least one antibody is selected from the group of antibodies consisting of 3C6, 3A4, 3A5, A9, MHS-10, and 8G8G8G8.

16. A method of purifying sperm DNA from a test sample, said method comprising:

obtaining a test sample;

contacting said test sample with a composition comprising at least one antibody directed against a sperm-specific antigen, wherein said antibody is linked to a support;

allowing whole sperm or sperm nuclei to bind to said at least one antibody;

washing away material which does not bind to the antibody or is non-specifically bound to the antibody;

contacting the bound material with a lysis buffer;

recovering said sperm DNA.

17. The method of claim 16, wherein said recovered sperm DNA is amplified by polymerase chain reaction.

18. The method of claim 16, wherein at least two antibodies are used.

19. The method of claim 16, wherein each of the at least one antibodies is directly linked to the support.

20. The method of claim 16, wherein the support is selected from the group consisting of chromatographic media and magnetic particles.

21. The method of claim 16, wherein said method is automated.

22. The method of claim 16, wherein said test sample is at least 24 hours old.

23. The method of claim 22, wherein said test sample is at least 72 hours old.

24. The method of claim 16, wherein said at least one antibody is labeled with a reporter molecule.

25. The method of claim 16, wherein said at least one antibody is selected from the group consisting of 3C6, 3A4, 3A5, A9, MHS-10, and 8G8G8G8.

26. The method of claim 16, wherein said sperm-specific antigen is selected from the group consisting of SEQ ID NO:1 (SP-10), SEQ ID NO:2 (CABYR), SEQ ID NO:3 (ESP), SEQ ID NO:4 (SAMP32), SEQ ID NO:5 (SPAN-X), SEQ ID NO:6 (AKAP), CBP86, SAMP-14, HUP1N, and HUP2B.

27. The method of claim 16, wherein said test sample is a forensic sample.

28. The method of claim 27, wherein said forensic sample is a post-coital swab.